



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/755,966	01/12/2004	John Paul Helgeson	12854-41 (P03170US)	3588
81090	7590	04/30/2009	EXAMINER	
WARF/BHGL			IBRAHIM, MEDINA AHMED	
P.O. Box 10395			ART UNIT	PAPER NUMBER
Chicago, IL 60610			1638	
			MAIL DATE	DELIVERY MODE
			04/30/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/755,966	Applicant(s) HELGESON ET AL.	
	Examiner Medina A. Ibrahim	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-16,19-26,29-52,54,56 and 58-73 is/are pending in the application.
- 4a) Of the above claim(s) 33-37 and 46 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-16,19-26,29-32,38-45,47-52,54,56 and 58-73 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Please note the Office action of 03/04/09 is hereby vacated in favor of this new non-final action.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Applicant's response filed 11/25/08 in reply to the Office action of 05/28/08 has been entered. Claims 1, 10, 13-14, 26, 38-39, and 51 are amended. New claims 68-73 are added. Claims 1, 3-16, 19-26, 29-52, 54, 56, and 58-73 are pending.

This application contains claims 33-37 and 46 drawn to an invention nonelected in the reply filed on 08/22/06. A complete reply to the rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claims 1, 3-16, 19-26, 29-32, 38-45, 47-52, 54, 56, 58-73 are examined.

Priority

The later-filed application must be an application for a patent for an invention which is also disclosed in the prior application (the parent or original nonprovisional application or provisional application). The disclosure of the invention in the parent application and in the later-filed application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994).

The disclosure of the prior-filed application, Application No. 60/439, 376, filed 01/10/2003, fails to provide adequate support or enablement in the manner provided by

Art Unit: 1638

the first paragraph of 35 U.S.C. 112 for one or more claims of this application. The nucleic acid sequences of SEQ ID NO: 4 and 7 and the polypeptide sequences of SEQ ID NO: 5 and 8 are not disclosed in the provisional application. The sequence search results of SEQ ID NO: 4-5 and 7-8 didn't reveal identical sequences in the provisional application 60/439,376. Therefore, the effective filing date of the instant application is considered to be 01/12/2004.

In the response filed 11/25/08, Applicant contends that the provisional application 60/439, 376 discloses the claimed sequences. Applicant relies the following points to support this position: 1) that BAC clone 177013 (SEQ ID NO: 1) which was deposited in GenBank accession No. AY303171 on May 21, 2003, and published by Song et al in PNAS on 08/05/2003 was used for the isolation of the late blight resistance gene of the instant application. 2) Figure 4 of the provisional application discloses gene 2 from the resistant homolog and the primers used for the isolation of the gene and transformation of potato with the gene are disclosed in pages 41-42. 3) The nucleic acid sequence of SEQ ID NO: 4 in the sequence listing on pages 69-71 of the provisional application, is 100% identical when the exons are joined together to produce a coding region for gene 2. 4) Example 6 of the provisional application, pages 43-47, shows alignment of sequences between two disease homolog sequences; the top sequence is 100% identical to SEQ ID NO: 4 of the instant application, and the bottom sequence is SEQ ID NO: 7. Finally, Applicant contends that the amino acid sequences of SEQ ID NO: 5 and 8 of the instant claims are disclosed in Example 5, at pages 42-43. Applicant, therefore,

Art Unit: 1638

contends that the effective filing of the instant application is 01/10/03. Applicant requests the rejection be withdrawn (response, pp. 11-13).

These are not found persuasive for the following reasons: firstly, the BAC clone 177013 (or SEQ ID NO: 1) is a large sequence with 55 kb nucleotides; one of ordinary skill in the art cannot readily recognize SEQ ID NO: 4 of the instant claims from BAC clone 177013 or from the primers set forth in the provisional application. Secondly, the BAC clone was publicly available as of 05/23/03 which is after the effective filing of Allefs et al (US 20030221215A1, filed 02/07/2003. Thirdly, the nucleic acid sequence of SEQ ID NO: 4 in the sequence listing on pages 69-71 of the provisional application contains an intron between the exons, one of ordinary skill in the art would not be motivated to join two exons to get a single coding region; one would most probably use each exon separately as a coding region. Each exon is not 100% identical to the SEQ ID NO: 4 of the instant claims. Regarding the amino acid sequences of SEQ ID NO: 5 and 8, it is noted that the instant claims are directed nucleic acid sequences including SEQ ID NO: 4 and 7, rather than the isolated amino acid sequences of SEQ ID NO: 5 or 8. Finally, the sequence search results of SEQ ID NO: 4 and 7 do not reveal sequences that are 100% identical from the provisional application. Therefore, Examiner maintains the effective filing date of claims drawn to SEQ ID NO: 4, 7 and nucleic acids encoding SEQ ID NO: 5 and 8 is 1/12/04.

Claim Rejections - 35 USC § 102

1. Claims 1, 3-16, 19-22, 24-26, 29-32, 38-41, 43-45, 47-50, and 66-73 are rejected under 35 U.S.C. 102(e) as being anticipated by Allefs et al (US 20030221215A1, published 11/27/2003; effective filing date is 02/07/03). This rejection is repeated for the reasons of record as set forth in the Office action of 05/28/08. Applicant's arguments filed 11/25/08 have been fully considered but are not deemed persuasive.
2. The claims are drawn to an isolated nucleic acid having the sequence of SEQ ID NO: 4 or 7 or sequence thereof having at least 95% sequence identity and encoding a resistance polypeptide, a nucleic acid encoding a resistance polypeptide having at least 95% to SEQ ID NO: 5 or 8, a nucleic acid encoding a resistance polypeptide having at least 95% identity to, a recombinant expression cassette comprising said nucleic acid, transgenic plant/cell comprising said expression cassette; said plant is from *Solanum* species, said disease is caused by *phytophthora infestans* or Oomycete pathogen, and a method of enhancing disease resistance in a plant by transformation of the plant with said nucleic acid; said plant is tomato, potato or eggplant; said nucleic acid comprising a label.
3. Allefs et al teach an isolated polynucleotide encoding a polypeptide that is 100% identical to Applicant's SEQ ID NO: 8, a recombinant vector and expression cassette comprising said polynucleotide, and a method for providing resistance against *phytophthora infestans* by transforming the plant with said polynucleotide; transgenic *Solanaceae* plants including potato, tomato and progeny thereof having resistance to *phytophthora*; said polynucleotide or a fragment thereof comprises an excisable label.

Art Unit: 1638

Aleffs et al also teach regenerating transformed plants including potato and tomato from transformed plant cells. Aleffs et al further teach polynucleotide sequences having 100% identity to Applicant's SEQ ID NO: 7 and 99.8% to Applicant's SEQ ID NO: 4 (see attached alignment of sequences). Therefore, Aleffs et al teach all claim limitations.

4. Applicant may file a priority showing under 37CFR 41.202 (d). See MPEP section 2305 [R-4].

Claim Rejections - 35 USC § 103

Claims 1, 3-16, 19-26, 29-32, 38-45, 47-52, 54, 56, 58-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aleffs et al (US 20030221215A1, published 11/27/2003) in view of Staskawics et al (US 6,166,295 A). Applicant's arguments filed 11/25/08 have been fully considered but are not deemed persuasive.

5. Aleffs et al teach an isolated polynucleotide encoding a polypeptide that is 100% identical to Applicant's SEQ ID NO: 8, a recombinant vector and expression cassette comprising said polynucleotide, and a method of providing resistance against *Phytophthora infestans* by transforming the plant with said polynucleotide; transgenic *Solanaceae* plants including potato, tomato and progeny thereof having resistance to phytophthora; said polynucleotide or a fragment thereof comprises an excisable label. Aleffs et al also teach regenerating transformed plants including potato and tomato from transformed plant cells. Aleffs et al further teach polynucleotide sequences having 100% identity to Applicant's SEQ ID NO: 7 and 99.8% to Applicant's SEQ ID NO: 4 (see attached alignment of sequences). While Aleffs et al teach an isolated gene which

Art Unit: 1638

comprises the promoter sequence of claims 23 and 42, Aleffs et al do not disclose the isolated promoter sequence of SEQ ID NO: 23. However, given the availability of the resistance gene containing its regulatory regions, the level of skill in the art, and the importance of resistance gene promoters as known to one of ordinary skill in the art, one would have been motivated to isolate the promoter sequence of the available resistance gene for use in plant transformation vectors to control expression of transcribable DNA sequences with a reasonable expectation of success.

6. Aleffs et al do not teach a polynucleotide comprising the specific labels of claim

67. Staskawics et al teach that methods for labeling polynucleotides/probes and guidance in the choice of labels appropriate for various purposes are well known to those of skill in the art and can be found in standard books on molecular protocols such as Sambrook et al (1989) (see column 12). Therefore, one of ordinary skill in the art would have a reasonable expectation of success to use an isotope, a chromophore or biotin or similar excisable labels with their polynucleotide for any desired purpose without any unexpected results. Reasons for using labeled probes or polynucleotides are known to one of ordinary skill in the art and as set forth in Staskawics et al.

Therefore, for all the reasons given above, the claimed invention as whole was a prima facie obvious.

7. Applicant may file a priority showing under 37CFR 41.202 (d). See MPEP section 2305 [R-4].

Remarks

Art Unit: 1638

No claim is allowed.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Medina A. Ibrahim whose telephone number is (571)272-0797. The examiner can normally be reached on M-TH 8:00 am to 5:30 PM, and every other Friday from 8:00 AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on 571-272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MAI
4/27/2009

/Medina A Ibrahim/
Primary Examiner, Art Unit 1638